

# Notice of Allowability

Application No.

10/528,751

Examiner

Edward R. Cosimano

Applicant(s)

ABERLE ET AL.

Art Unit

2863

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendments and remarks of 8/31/2007 & 11/06/2007.
2. ☒ The allowed claim(s) is/are 1 and 3-17.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

1. The Oath/Declaration filed 20 March 2006 in view of the application data sheet filed 22 March 2005 and the Abstract as filed on 22 March 2005 are acceptable to the examiner.
2. Applicant's claim for the benefit of an earlier filing date pursuant to 35 U.S.C. sections 120 and 371 is acknowledged.
3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
4. The examiner has considered the prior art cited in the base applications.
5. Figures 1 & 2 of the set of drawings containing 2 sheets of 2 figures are acceptable to the examiner where the set of drawings consists of figures 1 & 2 as presented in the set of drawings filed on 31 August 2007.
- 5.1 The examiner has approved the proposed changes to figures 1 & 2 of the drawings as filed 31 August 2007.

6. SUBSTANCE OF INTERVIEW

- 6.1 On 06 November 2007 representative McWhinney contacted the examiner to inquire into the status of the instant applicant in order to file a supplemental response.
  - 6.1.1 The examiner indicated that the examiner was in the process of preparing an Office action.
  - 6.1.2 Representative McWhinney indicated that a supplemental response would be electronically filed shortly.
  - 6.1.3 The examiner requested that a copy of the supplement response be submitted to the examiner for consideration before the examiner completes the preparation of the next Office action.
- 6.2 On 07 November 2007, the examiner contacted representative McWhinney in order to discuss some proposed examiner's amendments to correct the following problems.
  - 6.2.1 The disclosure is objected to because of the following informalities:

A) the following errors and/or inconsistencies between the drawings filed 31 August 2007 and the written description have been noted:

- (1) in paragraph number 39 it is noted that applicant's references to "charging 72", "alternating 74", and "measuring and evaluating 76", are

confusing because as can be seen in figure 2 as amended on 31 August 2007 applicant has used reference legend "70" to designate the feature of the invention entitled "CHARGING", reference legend "72" to designate the feature of the invention entitled "ALTERNATING", and reference legend "74" to designate the feature of the invention entitled "MEASURING AND EVALUATING". In view of this inconsistent use of reference legends, it is suggested that paragraph number 39 be amended as suggested below.

6.2.1.1 Appropriate correction is required.

6.2.2 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.2.2.1 Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6.2.2.2 In regard to claim 8, it is noted that one of ordinary skill at the time the invention was made would find the scope of claim 8 to be vague, indefinite, and confusing because claim 8 depends from cancelled claim 2 and hence the scope of claim 8 is indefinite.

6.2.3 Representative McWhinney, after considering the examiner's proposed amendments that would amend the written description to explicitly reference the correct corresponding reference numbers as depicted in figure 2 and to amend claim 8 in order to depend from claim 1, as suggested by applicant's remarks, see page 9 of the remarks, approved these proposed changes.

6.2.4 For details of the amendments see the examiner's amendment.

## 7. EXAMINER'S AMENDMENT

7.1 An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

7.1.1 Please amend the written description as indicated in the attached "amendments to the written description".

7.1.2 Please amend the claims as set forth in the attached "claims appendix".

7.1.3 Authorization for this examiner's amendment was given in a telephone interview with representative McWhinney on 07 November 7, 2007.

8. The following is a statement of reasons for the indication of allowable subject matter:

A) the prior art, for example:

(1) Summers et al (3,808,534) or Jamoua et al (5,063,534) or Zydek et al (WO 96/38736 or 5,909,348) or Gueguen et al (FR 2758626) or Bauer et al (DE 19813644 A1) or Sato et al (6,056,384) or Bergamini et al (EP 1 100 100 A1) disclose various machines/processes that provide the useful and beneficial function of testing circuits for faults or the improper operation of the circuit being tested. In these machines/processes switching devices are used in order to control the application of a voltage or a current to various elements of the circuit under test and then measurements of the circuit under test are made and evaluated in order to determine the faulty or proper operation of the circuit being tested.

B) however, the prior art does not fairly teach or suggest in regard to claim 1 a machine in claim 1 that provides the useful and beneficial function of a circuit for testing a electrical signal loop (see the disclosed utility) by shifting the operating point of two or more partial systems that evaluate the state of the signal line loop by providing structures in claim 1 that perform at least the functions of:

(1) an electrical signal line loop, comprising:

(a) a first voltage source connected in series to both an input of a first impedance and an input of a first switching means and where both the output of the first impedance and the output of the first switching means are serially connected to the input of a chain/series of two or more partial systems that function to evaluate the condition of the electrical signal line loop such that the first impedance and the first switching means are connected in parallel between the first voltage source and the chain/series of two or more partial systems; and

(b) a second voltage source connected in series to both an output of a second impedance and an output of a second switching means and where both an input of the second impedance and the input of the second switching means are serially connected to the output of the chain/series of two or more partial systems such that the second impedance and the second switching means are connected in parallel between the output of the chain/series of two or more partial systems and the second voltage source; and

(2) a selection means to selectively cause either the first switching means or the second switching means to conductive.

Claims 3-11, which depend from claim 1, are allowable for the same reason.

C) however, the prior art does not fairly teach or suggest in regard to claim 12 a process in claim 12 that provides the useful and beneficial function of a circuit for testing a electrical signal loop (see the disclosed utility) by shifting the operating point of a chain/series of two or more partial systems that evaluate the state of the signal line loop by providing actions in claim 12 that perform at least the functions of:

(1) charging the first end of the electrical signal line loop by using a first voltage source connected the first end of the signal line loop of the chain/series of two or more partial systems through a parallelly connected first impedance and a first switching means that is in a conductive state while the second end of the signal line loop of the chain/series of two or more partial systems is connected to a second voltage source through a parallelly connected second impedance and a second switching means that is in a non-conductive state;

(2) alternatively charging the second end of the electrical signal line loop by using the second voltage source connected the second end of the signal line loop of the chain/series of two or more partial systems through the parallelly connected second impedance and the second switching means that is in a conductive state while the first end of the signal line loop of the chain/series of two or more partial systems is connected to the first voltage source through the

parallelly connected first impedance and the first switching means that is in a non-conductive state; and

(3) measuring and evaluating the changes in the signal on the signal line loop during the alternative charging cycles.

Claims 13-17, which depend from claim 12, are allowable for the same reason.

9. Response to applicant's arguments.

9.1 The objections and rejection that have not been repeated here in have been over come by applicant's last response.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward R. Cosimano whose telephone number is 571-272-0571. The examiner can normally be reached on 571-272-0571 from 7:30am to 4:00pm (Eastern time).

10.1 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10.2 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ERC.  
11/07/2007



**Edward Cosimano**  
**Primary Examiner**

AMENDMENTS TO THE WRITTEN DESCRIPTION

Please replace paragraph number 39 as amended on 31 August 2007 with the following paragraph number 39:

[0039] Thus, in one embodiment, a method is provided comprising the steps of: charging ~~72~~ 70 a first end of the signal line loop with a first voltage of a first voltage connection and connecting a second end of the signal line loop to a second voltage connection via second impedance, alternating ~~74~~ 72 with this, connecting the first end to the first voltage connection via a first impedance and charging the second end with the second voltage of the second voltage connection; and measuring and evaluating ~~76~~ 74 the signal course on the signal line loop to identify the error situation.

### CLAIMS APPENDIX

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A circuit configuration, comprising  
an electrical signal line loop,  
several partial systems connected thereto, which evaluate the state of the signal line loop, wherein a first selectable switching means is looped in between a first end of the signal line loop and a first voltage connection and a second selectable switching means is looped in between a second end of the signal line loop and a second voltage connection and wherein a first impedance is switched parallel to the first switching means and a second impedance is switched parallel to the second switching means; and  
a selection unit for selecting the first and the second switching means.
2. (cancelled)
3. (Previously presented) Circuit configuration according to claim 1, characterised in that the first voltage connection is a supply voltage connection for the partial systems.
4. (Previously presented) Circuit configuration according to claim 1, characterised in that the second voltage connection is a ground connection.
5. (Previously presented) Circuit configuration according to claim 1, characterised in that the first switching means is a transistor.
6. (Previously presented) Circuit configuration according to claim 1, characterised in that the second switching means is a transistor.
7. (Previously presented) Circuit configuration according to claim 5, characterised in that the first and the second transistor are transistors complementary to one another.
8. (Currently amended) Circuit configuration according to claim 2 1, characterised in that the first and the second impedance are ohmic resistors.
9. (Previously presented) Circuit configuration according to claim 1, characterised in that the partial systems are connected to the signal line loop with high resistivity.
10. (Previously presented) Circuit configuration according to claim 1, characterised in



that the signal line loop is looped through the partial systems.

11. (Previously presented) Circuit configuration according to claim 1, characterised in that the partial systems have means for interrupting the signal line loop.

12. (Previously presented) Method for identifying error situations of an electrical signal line loop with several partial systems connected thereto, in particular partial systems for voltage generation in a fuel cell system, characterised by the steps:

charging a first end of the signal line loop with a first voltage of a first voltage connection and connecting a second end of the signal line loop to a second voltage connection via second impedance,

alternating with this, connecting the first end to the first voltage connection via a first impedance and charging the second end with the second voltage of the second voltage connection; and

measuring and evaluating the signal course on the signal line loop to identify the error situation.

13. (Previously presented) Method according to claim 12, characterised in that, during evaluation of the signal course is detected which partial systems constantly measure the first voltage, which partial systems measure an undefined voltage and which partial systems constantly measure the second voltage and in that short-circuits or short-circuits to ground and/or interruptions of the signal line loop are ascertained and/or located as a function of the voltages measured by the individual partial systems.

14. (Previously presented) Method according to claim 12, characterised in that, during evaluation of the signal course, an error is identified if at least one partial system measures a DC voltage.

15. (Previously presented) Method according to claim 12, characterized in that, during evaluation of the signal course, a short-circuit of the signal line loop with the first voltage connection is identified if all the partial systems measure a DC voltage with the level of the first voltage connection.

16. (Previously presented) Method according to claim 12, characterised in that, during evaluation of the signal course, a short-circuit of the signal line loop with the second voltage

connection is identified if all the partial systems measure a DC voltage with the level of the second voltage connection.

17. (Previously presented) Method according to claims claim 12, characterised in that, during evaluation of the signal course, an interruption at a location on the signal line loop is identified if partial systems on one side of the location constantly measure the first voltage and partial systems on the other side of the location constantly measure the second voltage.